

**Remarks**

The following remarks are responsive to the Office Action of September 30, 2005. Claims 1-2, 4-7 and 9 were been rejected under 35 U.S.C. 102(b) as anticipated by Dahms '159. Claims 1, 3-6 and 8-9 were rejected under 35 U.S.C. 102(b) as anticipated by Dahms et al. '711. Claims 3 and 8 were rejected under 35 U.S.C. 103(a) as obvious over Dahms '159 in view of Dahms et al. '711.

Each of the independent claims, namely claims 1 and 6, have been amended. In particular, claims 1 and 6 have been amended to specify the electrolytic copper foil "having rough surface and polished surface wherein said rough surface has a roughness Rz measured by an IPC TM 650 2.2.17A method less than 2.0  $\mu\text{m}$  without surface treatment." Support for these amendments are found in the specification at, for example, page 8, lines 10-17. No claims have been cancelled.

In general, the prior art patents, Dahms '159 and Dahms et al. '711, are directed to copper coating on a PCB substrate or other substrate. As such, their teaching is limited to uniformly coating a PCB substrate with copper. For example, Dahms '159 indicates it is directed toward "electrochemical deposition of a copper coating, especially a shiny and tear-free copper coating, and a coating for reinforcement of conductive pathways on a printed circuit board with outstanding breaking elongation." (Dahms '159, column 1, lines 9-13) Similarly, Dahms et al. '711 indicates it is directed toward "electrolytic deposition of metal coatings with uniform coating thickness, particularly of copper coatings with certain physical-mechanical and optical characteristics." (Dahms et al. '711, column 1, lines 4-7)

As indicated above, the two prior art references are directed to an electrodeposited copper foil for a printed circuit board. In contrast, the present invention is directed to an electrolytic copper foil that may be used as the collector for a secondary battery. In other words, independent claims 1 and 6 relate to the copper foil itself which may be used for an electrode of a rechargeable battery, not for copper coating on another substrate. Based solely upon this very fundamental difference in the teaching of the prior art and the claimed invention, applicant submits that the rejections under Section 102 and 103 must be

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withdrawn. In particular, there is no teaching, suggestion or disclosure of the Dahms '159 or Dahms et al. '711 that is relevant to the manufacture of an electrolytic copper foil; those references teach only electrodeposition of copper foil on a substrate. Accordingly, applicants request that the rejections under Section 102 and Section 103, which are based upon the Dahms '159 and Dahms '711 references, be withdrawn.

To further distinguish the invention, applicant has amended each of the independent claims, claims 1 and 6, to provide that the copper foil manufactured has a "rough surface and a polished surface wherein said rough surface has a roughness Rz measured by an IPC TM 650 2.2.17A method less than 2.0  $\mu\text{m}$  without surface treatment." Applicants submit that this is another element of the claims of the present invention that is not disclosed, taught or suggested by the prior art references of record.

As pointed out above, the prior art fails to teach an electrolyte solution for manufacturing a copper foil with the characteristics specified in claim 1 and claim 6. Accordingly, applicant requests that the rejections be withdrawn and the application be reconsidered and allowed. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Brian C. Rupp", is written over a horizontal line.

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CERTIFICATE OF MAILING

I hereby certify that this RESPONSE TO OFFICE ACTION OF SEPTEMBER 30, 2005 (along with any documents referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Date: December 30, 2005

  
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Irina L. Mikitiouk

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